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By Graham Warwick



The U.S. Air Force is developing requirements for the next upgrade of the F-22 Raptor following the decision to equip the fighter with a stealthy datalink under development for the F-35 Joint Strike Fighter.

“The F-22 program has begun the weapon system requirements development phase of Increment 3.2, which includes Multifunction Advanced Data Link [MADL] capability,” Lockheed Martin says.

The manufacturer was awaiting selection of an advanced datalink so it could begin work on the Increment 3.2 upgrade, to be fielded in 2012/13. Northrop Grumman’s MADL was selected over Rockwell Collins’ Tactical Targeting Network Technology (TTNT) link.

MADL has been chosen to tie together U.S. “anti-access” forces, including the F-22, F-35, B-2 and potentially the U.S. Navy’s proposed unmanned combat air system. F-22s already have a unique Intra-Flight DataLink (IFDL), but it has performance limitations.

Integration of MADL on the F-22 will require new radio hardware, modification of the existing IFDL antennas for MADL frequencies, and “software integration of interoperability messages,” Lockheed says.

The Air Force initially planned to upgrade only 80 F-22s to Increment 3.2, but Pentagon acquisition chief John Young told Congress in November that additional funding would be requested in the fiscal 2010 budget to also retrofit the first 100 aircraft.

Under the Defense Department’s Advanced Tactical Data Link concept, MADL is only one of several datalinks planned for anti-access networking. For the B-2s, this includes an EHF satellite-communications link providing connectivity to the Global Information Grid.

“Currently the [F-22] program does not have a requirement for an additional two-way datalink beyond MADL and IFDL, but architecture decisions are being made to enable straightforward integration of additional capabilities,” Lockheed says.

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